Listing of Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (currently amended) A hybrid power generation system for generating electrical power comprising:

a compressor for producing a compressed oxidant;

a recuperator in flow communication with said compressor;

a fuel cell assembly comprising a plurality of fuel cells in flow communication with said recuperator to provide the compressed oxidant for said fuel cell assembly, said fuel cell assembly further comprising a cathode inlet for receiving the compressed oxidant, an anode inlet for receiving a fuel stream, an anode outlet in flow communication with an anode exhaust stream and a cathode outlet in flow communication with a cathode exhaust stream; wherein at least a portion of the fuel steam reacts with the oxidant to produce electrical power;

a tail gas burner in fluid communication with the anode outlet and the cathode outlet; said tail gas burner configured for combusting a mixture of at least a portion of the anode exhaust stream and at least a portion of the cathode exhaust stream and producing a hot compressed gas, wherein the tail gas burner comprises a primary zone and a secondary zone;

a control system for controlling the amount of the cathode exhaust stream introduced in the tail gas burner for stable combustion and reduction of fuel and carbon monoxide emission, wherein less than 20 percent of the cathode exhaust stream by mass is diverted to the primary zone of the tail gas burner and about 5 percent to about 100 percent of the cathode exhaust stream by mass is diverted to the secondary zone of the tail gas burner; and

a turbine expanding said hot compressed gas and producing electrical power and an expanded gas.

2. (currently amended) The hybrid power generation system of claim 1, wherein the anode exhaust stream comprises a low heat content fuel configured to have a heat content.

3. (original) The hybrid power generation system of claim 2, wherein the heat content of the low heat content fuel is equal or less than about 250 BTU per cubic feet at standard conditions.

4. (original) The hybrid power generation system of claim 2, wherein the heat content of the low heat content fuel is equal or less than about 100 BTU per cubic feet at standard conditions.

5. (original) The hybrid power generation system of claim 1, wherein the cathode exhaust stream comprises oxygen in less than about 25 percent by volume.

6. (original) The hybrid power generation system of claim 1, wherein the oxidant is air.

7. (original) The hybrid power generation system of claim 6, wherein the cathode exhaust stream is an oxygen depleted air stream comprising oxygen in less than about 21 percent by volume.

8. (original) The hybrid power generation system of claim 1, wherein at least one portion of the compressed oxidant is diverted to the tail gas burner to provide cooling for the tail gas burner.

9. (cancelled)

10. (cancelled)

11. (cancelled)

12. (original) The hybrid power generation system of claim 1, wherein the anode exhaust stream is introduced into the tail gas burner through one or more nozzles.

13. (original) The hybrid power generation system of claim 1, wherein the fuel cell is selected from the group consisting of solid oxide fuel cells, proton exchange membrane fuel cells, molten carbonate fuel cells, phosphoric acid fuel cells, alkaline fuel cells, direct methanol fuel cells, regenerative fuel cells, zinc air fuel cells, and protonic ceramic fuel cells.

14. (currently amended) The hybrid power generation system of claim 1, further comprising a pre-reformer to reform the fuel stream.

15. (withdrawn) The hybrid power generation system of claim 1, wherein at least a portion of the anode exhaust stream is recycled to the inlet of the pre-reformer.

16. (withdrawn) The hybrid power generation system of claim 15, wherein the pre-reformer is an integral part of the fuel cell assembly.

17. (original) The hybrid power generation system of claim 1, wherein at least a portion of the cathode exhaust stream is recycled back to the cathode inlet of the fuel cell assembly.

18. (original) The hybrid power generation system of claim 1, wherein the anode exhaust stream comprises carbon monoxide, unreacted fuel, carbon dioxide and water.

19. (withdrawn) The hybrid power generation system of claim 18, further comprising a separation unit to separate the carbon dioxide from the anode exhaust stream.

20. (original) The hybrid power generation system of claim 1 wherein the fuel is selected from the group consisting of natural gas, methane, aviation fuels, propane, n-heptane, diesel, kerosene, gasoline, and coal derived fuel gas.

21. (withdrawn) A method of operating a hybrid power generation system comprising the steps of:

supplying an oxidant flow to an inlet of a fuel cell assembly, the fuel cell assembly comprising a plurality of fuel cells;

supplying a fuel to the inlet of the fuel cell assembly;

reacting electrochemically said fuel with said oxidant to produce electricity, an oxygen depleted exhaust oxidant stream and a low heat content fuel stream;

introducing said low heat content fuel stream into a tail gas burner;

controlling the oxygen depleted oxidant flow into the tail gas burner for mixing with said low heat content fuel stream to promote combustion and producing a hot gas; and

introducing the hot gas into a gas turbine to generate electricity.

22. (withdrawn) The method of claim 21, wherein the heat content of the low heat content fuel is less than or equal to about 250 BTU per cubic feet at standard conditions.

23. (withdrawn) The method of claim 21, wherein the exhaust oxidant stream comprises oxygen at less than about 25 percent of the volume of the exhaust oxidant stream.

24. (withdrawn) The method in claim 21, further comprising pre-reforming the fuel in a pre-reformer prior to sending the fuel to the fuel cell assembly.

25. (withdrawn) The method in claim 24 further comprising recirculating at least a portion of the low heat content fuel stream into the inlet of the pre-reformer.

26. (withdrawn) The method in claim 21, wherein the fuel cell is a solid oxide fuel cell.

27. (currently amended) A hybrid power generation system for generating electrical power comprising:

a compressor for producing compressed air;

a recuperator in flow communication with said compressor;

a solid oxide fuel cell assembly comprising a plurality of solid oxide fuel cells in flow communication with said recuperator to provide the compressed ~~oxidant~~ air for said solid oxide fuel cell assembly, said fuel cell assembly further comprising a cathode inlet for receiving the compressed air, an anode inlet for receiving a fuel stream, an anode outlet in flow communication with an anode exhaust stream and a cathode outlet in flow communication with a cathode exhaust stream; wherein at least a portion of the fuel stream reacts with the air to produce electrical power;

a tail gas burner in fluid communication with the anode outlet and the cathode outlet; said tail gas burner configured for combusting a mixture of at least a portion of the anode exhaust stream and at least a portion of the cathode exhaust stream and producing a hot compressed gas, wherein the tail gas burner comprises a primary zone and a secondary zone;

a control system for controlling the amount of the cathode exhaust stream introduced in the tail gas burner for stable combustion and reduction of fuel and carbon monoxide emission, wherein less than 20 percent of the cathode exhaust stream by mass is diverted to the primary zone of the tail gas burner and about 5 percent to about 100 percent of the cathode exhaust stream by mass is diverted to the secondary zone of the tail gas burner; and

a turbine for expanding said hot compressed gas and producing electrical power and an expanded gas.